Cisco ISR1100-4G, 1100-4GLTE and 1100-6G Routers

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Part of the Cisco® 1000 Series Integrated Services Routers (ISR), the ISR 1100-4G, ISR1100-4GLTE and ISR 1100-6G models are powered by the Viptela® operating system and combine WAN and comprehensive security in a wired high-performance platform. The ISR 1100-4G, 1100-4GLTE and 1100-6G combine an enterprise grade platform with best-in-class SD-WAN.

Cisco Software-Defined WAN (SD-WAN) is a cloud-first architecture that provides unparalleled visibility across your WAN, optimal connectivity for end users, and the most comprehensive security platform to protect your network. Cisco SD-WAN provides transport independence, rich network, and security services as well as endpoint flexibility.

The ISR 1100-4G, 1100-6G and 1100-4GLTE routers are delivered as platforms that sit at the perimeter of a site, such as a remote office, branch office, campus, or data center. They participate in establishing a secure virtual overlay network over a mix of any WAN transports.

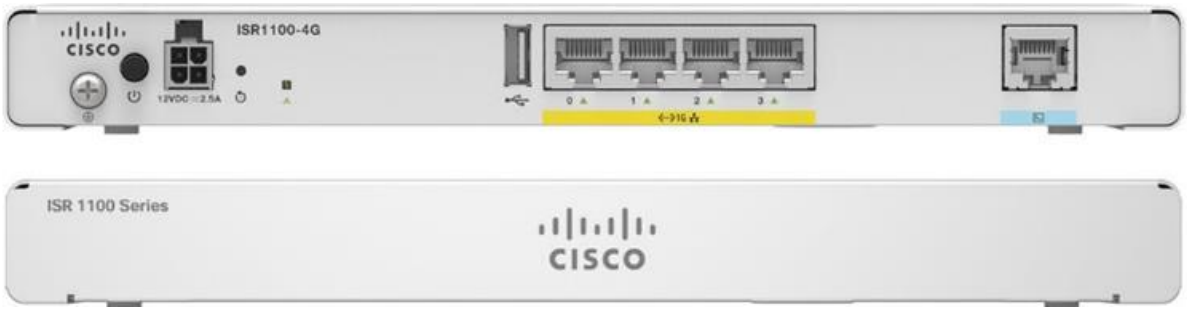

Figure 1.
ISR 1100-4G, front and back view

Figure 2.
ISR 1100-6G, front view; back view same as ISR 1100-4G above

Figure 3.
ISR1100-4GLTE front view, back view same as ISR1100-4G above

Primary features and benefits

Table 1. Business benefits

Business need	Features/description
Lightweight, compact size with low power consumption	• Can be deployed in many different environments where space, heat dissipation, and low power consumption are critical factors
High performance to run concurrent services	• High performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services
High availability and business continuity	• Redundant WAN connections for failover protection and load balancing • Dynamic failover protocols such as Virtual Router Redundancy Protocol (VRRP; RFC 2338)
Consistent, high application performance levels	• The router can run multiple services simultaneously with minimal performance degradation. • Cisco SD-WAN delivers the best user experience over any connection.
Risk mitigation with multilevel security	• Data privacy through high-speed IP Security (IPsec) and Advanced Encryption Standard (AES) encryption • Trustworthy systems and hardware anchor
Remote configuration and management to keep local IT staff lean	• Zero-touch provisioning with Cisco vManage Network Management System (NMS) • Supports separate console port
Lower WAN expenditures	• Cisco SD-WAN powered by Viptela operating system with Overlay Management Protocol (OMP) support for optimized WAN connection as well as easy-to-use management solution with Cisco vManage
Pay as you grow: IPsec performance upgrade model	• Router IPsec capacity can be increased with a remote-performance, on-demand license upgrade (no hardware upgrade) for better CapEx budget management
IT consolidation, space savings, and improved TCO	• Single converged branch platform integrates routing, security, and performance management capabilities

Platform architecture and capabilities

Table 2. Architectural highlights

Architectural feature	Benefits/description
Multicore architecture	• Dedicated control plane for service reliability; multicore data plane for higher performance in ISR1100-6G
Integrated Gigabit Ethernet ports	• Provides up to four built-in 10/100/1000 Ethernet ports for WAN or LAN • ISR1100-6G platform has an additional two Ethernet ports that can support Small Form-Factor Pluggable (SFP)-based connectivity in addition to RJ-45 connections, enabling fiber or copper connectivity
Console access	• RJ45 console port supports management connectivity
Flash memory support	• The 1100 Series routers ship with a fixed dual 16 MB serial flash memory • Bulk flash: 8 GB eMMC pSLC (usable storage: 5.8 G) • USB type A 3.0 ports (4.5 W) provide capabilities for convenient storage
DRAM	• The ISR1100 Series comes with 4 GB fixed DDR4 ECC DRAM

Architectural feature	Benefits/description
Embedded device security	• Cisco anticounterfeit functionality • UEFI secure boot

Table 3. Network management solutions

Operational phase	Application	Description
Networkwide deployment, configuration, monitoring, and troubleshooting	Cisco vManage	• Cisco SD-WAN automates application flexibility over multiple connections, such as the Internet and MPLS • Rich networking and security services are delivered with a few simple clicks. Deploy WAN optimization, cloud security, firewalling, IPS, and URL filtering across the SD-WAN fabric from a single location • Extend and manage SD-WAN fabric across physical or virtual platforms for branch, campus, data center, and cloud

Table 4. Embedded management capabilities

Feature	Description
Cisco IP Service-Level Agreements (IP SLAs)	• App-aware routing based on SLAs and performance parameter polling
Simple Network Management Protocol (SNMP), Remote Monitoring (RMON), syslog, CFlowd, IP Flow Information Export (IPFix)	• SNMP • Netconf over SSH, CLI, REST (vManage)

Table 5. Software features and protocols

Feature	Description
Protocols	Open Shortest Path First (OSPF), Border Gateway Protocol (BGP), eBGP, iBGP, BGP Router Reflector, static, connected, OMP, 802.1Q, native VLAN, bridge domains, IRB, host-mode bridging, zero-trust, whitelisting, tamper-proof module, DTLS/TLS, IPSec, DDOS protection, control plane protection, classification, prioritization, low latency queuing, remarking, shaping, scheduling, policing, mirroring, IGMP v1/v2, PIM, Auto-RP, scale-out traffic replication, service advertisement and insertion policy, IPv4, SNMP, NTP, DNS client, Dynamic Host Configuration Protocol (DHCP), DHCP client, DHCP server, DHCP relay, config archival, syslog, SSH, SCP, Cflowd v10 IPFIX export, IPv6 for transport-side, VRRP, MPLS, symmetric NAT, static NAT, NAT pools, NAT64, NAT/PAT, NAT traversal, split DNS, Access Control Lists (ACL)
Encapsulations	Generic Routing Encapsulation (GRE), IPSec, Ethernet, 802.1q VLAN, CHAP/PAP for PPP over Ethernet (PPPoE)
Traffic management	Quality of Service (QoS), COS marking, app-aware routing, Weighted Random Early Detection (WRED), loss/latency and jitter monitoring, route policies, app-aware routing, control policy, data policy, ACL policy, VPN membership policy, multi-VRF support, Performance Routing (PfR) Netconf over SSH, CLI, REST (vManage), Linux shell, ZBFs (Zone-Based Firewalls)

Feature	Description
Cryptographic algorithms	Encryption: AES-256 (in CBC and GCM modes), Internet Key Exchange (IKE), Cisco PKI Authentication: Authentication, Authorization, and Accounting (AAA), RSA (2048 bit), Integrated QAT, ESP-256-CBC, Authentication Header, HMAC-SHA1, ECDSA (256/384 bit); Integrity: HMAC-MD5, SHA-1, SHA-2

Product specifications

Table 6. ISR 1100 Series and LTE SKUs

Model	WAN			LAN	Integrated USB 3.0 AUX/console
	GE (Copper)	SFP	LTE (CAT4)	GE (Copper)	
ISR1100-4G	4	-	-	4	Yes
ISR1100-6G	4	2	-	4	Yes
ISR1100-4GLTENA	4	-	North America	4	Yes
ISR1100-4GLTEGB	4	-	LATAM/APAC/EMEAR	4	Yes

System specifications

Table 7. ISR 1100 Series system specifications

Feature	Specification	
Memory (default and maximum)	DRAM: 4 GB	Flash: 8 GB (5.8 GB usable)
Console	• Cisco RJ45 Console port	
Authentication and security	• TACACS+ • RADIUS • Local, role-based access control	
External power supply	Product power specifications: • External Adapter: 30W 341-100891-01 • AC input voltage: Universal 100 to 240 VAC • Frequency: 50 to 60 Hz • Maximum output power: 30W • Output voltage: +12VDC for system power	
USB 3.0	• USB devices supported: ◦ USB flash memory • **Note:** Supported USB 3.0 devices to be connected externally. View the USB Device Support Data Sheet.	

Feature	Specification
LEDs	• System status: off = no power, green steady on = normal operation, amber steady on = system going down/fault, amber blink = boot up phase • OMP Status: Green steady on = Connection is up, Off = Connection is down • 1x green per Ethernet; off = no link, steady on = link connected, blink = traffic flowing • SIM: green; off = no SIM, steady on = SIM present, blink: traffic flowing • 1x green per SFP
Physical dimensions (W x D x H)	• 10.2 x 7 x 1.1 in (259 x 178 x 28 mm)
Weight	• 2.64 lbs (1.08 kg)
Standard safety certifications	• UL 60950-1, second edition • CAN/CSA C22.2 No. 60950-1, second edition • EN 60950-1, second edition • CB to IEC 60950-1, second edition with all group differences and national deviations • AS/NZS 60950.1:2011 • IEC-62368 (CB and UL/CSA) • NOM-019-SCFI-1998 • GB4943
EMC emissions	• EN55022/CISPR22, CFR 47 Part 15, ICES003, VCCI-V-3, AS/NZS CISPR22, CNS13438, EN300-386, EN61000-3-2, EN61000-3-3, KN22, TCVN 7189, and EN61000-6-1
EMC immunity	• EN55024/CISPR24, (EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11), EN61000-6-1, KN24, TCVN 7317, and EN300-386
Environmental operating range	• Operating temperature: 0 to 40° C (32 to 104° F) at sea level (temperature derating of 1.5° C per 1000 feet of altitude applicable up to max of 10,000 feet or 3000 m) • Operating altitude: Maximum 10,000 ft (3000 m) with 1° C derating per 1000 ft • Operating humidity: 0 to 95% relative humidity noncondensing

Table 8. LTE Bands Supported

Region or theater	ISR1100-4GLTENA	ISR1100-4GLTEGB
Bands	LTE: B2, B4, B5, B12, B13, B14, B17, B66 FDD LTE 1900 MHz (band 2), 1700 MHz (band 4), 850 MHz (band 5), 700 MHz (band 12, 13, 14, 17), 1700MHz (band 66) UMTS: B2, B4, B5	LTE: B1, B3, B7, B8, B20, B28 FDD LTE 2100 MHz (band 1), 1800 MHz (band 3), 2600 MHz (band 7), 900 MHz (band 8), 800 MHz (band 20), 700 MHz (band 28) UMTS: B1, B8 GSM/GPRS/EDGE: E-GSM 900, DCS 1800
Theoretical download/upload speeds	150 Mbps/50 Mbps	150 Mbps/50 Mbps
United States	•	
Europe		•
Canada	•	

Region or theater	ISR1100-4GLTENA	ISR1100-4GLTEGB
Middle East with specific LTE bands/frequencies		•
Southeast Asia		•
Latin America		Dependent upon specific operators supporting the LTE bands listed above.

Table 9. Cisco LTE Specifications

Item	Specification
Modem information	• Modem form factor: WP7600 Series
Important LTE features	• 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz and 20 MHz RF bandwidth • WCDMA fallback • Last resort circuit • SIM based carrier firmware selection (Verizon, AT&T, Generic)
SIM support	• Single Micro (3FF) SIM card socket
Wireless technologies supported	**Cisco LTE Advanced 3.0 LTE (Refer to Table 9: LTE Bands Supported)** **Backward compatibility:** • UMTS and HSPA+
Included antenna	• Two multiband swivel-mount dipole antennas (LTE-ANTM-SMA-D) • For -N antenna and cable installation guidance, view the Connected Grid Antennas Installation Guide

Cisco IOS software licensing and packaging

Cisco SD-WAN software image

A single Cisco SD-WAN operating system encompassing all functions is delivered with the platform. Advanced features can be enabled simply by activating a software license on the image. Licensing simplifies software delivery and decreases the operational costs of deploying new features.

Table 10. Product part numbers and software images

Product part number	Description
Router software images	
Viptela-OS	Viptela-OS versions 19.2.0 and later
Network Licenses	
NETWORK-PNP-LIC	Network Plug-n-Play License for zero-touch device deployment
Accessories	
CAB-CONAUX	Auxiliary console cable

Product part number	Description
CAB-CONSOLE-RJ45	RJ45 Console cable
CAB-ETH-S-RJ45	Ethernet cable, RJ45
LTE-ADPT-SM-TF	Cisco LTE SMA Antenna
LTE-AE-MAG-SMA	Magnetic Antenna Extension Base
LTE-ANTM-SMA-D	LTE SMA dipole antenna

Table 11. List of Small Form-Factor Pluggables supported with ISR 1100 Series

Small Form-Factor Pluggable	ISR 1100-6G	Description
VIP-SFP-1GE-BASET	Yes	Pluggable transceiver - 1GE BaseT
VIP-SFP-1GE-LX	Yes	Small form-factor pluggable transceiver - 1GE LX
VIP-SFP-1GE-SX	Yes	Small form-factor pluggable transceiver - 1GE SX

For the Cisco ISR 1100-4G/6G/LTE Routers Hardware and Software Configuration Guide, go to:

- https://www.cisco.com/c/en/us/td/docs/routers/sdwan/hardware/isr1100-4g-6g/cisco-isr-1100-4g-6g-hig.html.
- https://www.cisco.com/c/en/us/support/routers/sd-wan/products-installation-and-configuration-guides-list.html.

Cisco and partner services

Services from Cisco and our certified partners can help you reduce the cost and complexity of branch-office deployments. Cisco Smart Net Total Care® technical support for the Cisco ISR 1000 Series is available on a one-time or annual contract basis. Support options range from help-desk assistance to proactive, onsite consultation.

For more information, visit https://www.cisco.com/go/services.

Ordering information

To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

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For more information

For more information about ISR 1000 Series routers, visit https://www.cisco.com/go/ISR1000 or contact your local Cisco account representative.

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